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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,218	03/30/2004	Anantha Ramaiah	50325-0886	7101

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EXAMINER

SHERKAT, AREZOO

ART UNIT	PAPER NUMBER
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2131

DATE MAILED: 02/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/815,218

Applicant(s)

RAMAIAH ET AL.

Examiner

Arezoo Sherkat

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                              |                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/6/04</u> . | 6) <input type="checkbox"/> Other: _____                                                |

### DETAILED ACTION

Claims 1-17 are presented for examination.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Meyer et al., (U.S. Publication No. 2002/0145976 and Meyer I hereinafter).

Regarding claims 1-5, Meyer I discloses a method of preventing an attack on a network, wherein the attack comprises injecting a spurious transmission control protocol (TCP) segment into a TCP connection between a sender and a receiver, comprising the computer-implemented steps of:

receiving a duplicate TCP ACK message, incrementing a false duplicate ACK counter when a TCP re-transmission buffer maintained by the receiver is empty, when the false duplicate ACK counter is equal to a specified strike factor, sending a corrective ACK message that provides a correct sequence value and ACK value (i.e., a

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segment is retransmitted if a threshold number of acknowledgment messages identifying the same data segment are received by the sending peer)(Par. 0040-0060).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer et al., (U.S. Publication No. 2002/0145976 and Meyer I hereinafter), in view of Meyer et al., (U.S. Publication No. 2003/0191844 and Meyer II hereinafter)

Teachings of Meyer I with regard to limitations of claim 1 have been discussed previously.

Regarding claims 6 and 7, Meyer I discloses a method as recited in Claim 1, further comprising the steps of: receiving the corrective ACK message (i.e., a segment is retransmitted if a threshold number of acknowledgment messages identifying the same data segment are received by the sending peer)(Par. 0040-0060).

Meyer I does not expressly disclose determining whether the correct sequence value is less than another sequence value of a segment in a re-assembly buffer,

discarding the segment from the re-assembly buffer when the correct sequence value is less than the other sequence value of a segment in the re-assembly buffer.

However, Meyer II discloses determining whether the correct sequence value is less than another sequence value of a segment in a re-assembly buffer, discarding the segment from the re-assembly buffer when the correct sequence value is less than the other sequence value of a segment in the re-assembly buffer (Par. 0039-0060).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify teachings of Meyer I with teachings of Meyer II because it would allow to include discarding the segment from the re-assembly buffer when the correct sequence value is less than the other sequence value of a segment in the re-assembly buffer as disclosed by Meyer II. This modification would have been obvious because one of ordinary skill in the art would have been motivated by the suggestion of Meyer II to avoid unnecessary retransmissions and reduce the burstiness of the transmissions (Meyer II, Par. 0011).

Regarding claims 8 and 13-17, Meyer I discloses a method of preventing an attack on a network, wherein the attack comprises injecting a spurious transmission control protocol (TCP) segment into a TCP connection between a sender and a receiver, comprising the computer-implemented steps of:

receiving a particular TCP segment (Par. 0040-0060).

Meyer I does not expressly disclose determining whether the correct sequence value is less than another sequence value of a segment in a re-assembly buffer,

discarding the segment from the re-assembly buffer when the correct sequence value is less than the other sequence value of a segment in the re-assembly buffer.

However, Meyer II discloses determining a sequence value gap as between the particular TCP segment and a prior TCP segment previously placed in a re-assembly buffer maintained by the receiver, determining whether the sequence value gap is too large according to a specified heuristic, if the sequence value gap is too large, then performing the steps of: creating and sending a dummy segment carrying a particular sequence value that is just prior to a last properly acknowledged sequence value, receiving an acknowledgment of the dummy segment, determining whether a second sequence value carried in the acknowledgment is less than a third sequence value of the first TCP segment, and discarding the particular TCP segment from the re-assembly buffer when the second sequence value carried in the acknowledgment is less than the third sequence value of the particular TCP segment (Par. 0039-0060).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify teachings of Meyer I with teachings of Meyer II because it would allow to include discarding the segment from the re-assembly buffer when the correct sequence value is less than the other sequence value of a segment in the re-assembly buffer as disclosed by Meyer II. This modification would have been obvious because one of ordinary skill in the art would have been motivated by the suggestion of Meyer II to avoid unnecessary retransmissions and reduce the burstiness of the transmissions (Meyer II, Par. 0011).

Regarding claim 9, Meyer I discloses wherein the specified heuristic holds when a re-assembly gap value is greater than one-half of a then-current window size (Par. 0067).

Regarding claims 10-12, Meyer I discloses wherein the specified heuristic holds when a re-assembly gap value is greater than the lesser of (a) one-half of a then-current window size or (b) a multiple of a maximum allowed segment size (Par. 0067).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ameigeiras et al., (U.S. Publication No. 2004/0052234), and  
Zuk et al., (U.S. Publication No. 2003/0154399).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arezoo Sherkat whose telephone number is (571) 272-3796. The examiner can normally be reached on 8:00-4:30 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Arezoo Sherkat  
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Jan 29, 2006



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